The filtered signals are output from filter **92** to variable gain IF amplifier **94** where the signals are amplified. The amplified signals are output from amplifier **94** to an analog to digital (A/D) converter (not shown) for subsequent digital signal processing operations on the signals. The output of amplifier **94** is also coupled to power measurement circuit **96**. power measurement circuit **96** generates a received signal strength signal, P_{TOTAL}, indicative of the total wide-band received signal power. This signal, P_{TOTAL}, is provided to control processor **78**, where it is used as described below to estimate path loss between the mobile unit **16** and the cell-site **12**.

FIG. **4** illustrates the digital receiver **74** in greater detail. The receiver **74** includes a plurality of demodulation elements **104** controlled by controller **78** through interconnection **112**. Input signal **110** from analog receiver **72** is seen to be provided to searcher element **102** and demodulation elements **104**A–**104**N. Searcher element **102** continually scans the time domain searching for pilot signals from nearby base stations. Searcher element **102** also scans a set of time offsets around the nominal arrival of the signal from each base station in search of multipath signals that have developed.

Searcher element **102** passes the developed data to controller **78**. Searcher element **102** may pass data through interconnection **112**. Alternatively, searcher element **102** may pass data to controller **78** through direct memory access. Direct memory access allows searcher element **102** to pass information directly to controller memory **118** without interrupting controller functions. Direct memory access operation is illustrated by dashed data line **116** that is directly connected from searcher element **102** to memory **118** within controller **78**. Controller **78** uses the data stored in memory **118** to assign demodulation elements **104**A–**104**N to one of the plurality of information signals that may be contained in input signal **110**.

Demodulation elements **104**A–**104**N process input signal **110** to produce soft decision data bits **120**A–**120**N that are combined by a symbol combiner (not shown) within user baseband circuitry **82**. The output of symbol combiner (not shown) is aggregate soft decision data suitable for Viterbi decoding. Demodulation elements **104**A–**104**N also provide several output control signals to controller **78** through interconnection **112** that are used in the assignment process.

Each of demodulation elements **104**A–**104**N is highly similar in structure to the others. FIG. **5** illustrates a selected portion of a demodulation element **104** of FIG. **4** in further detail. In FIG. **5**, input signal **110** is assumed to be a Quadrature Phase Shift Keyed (QPSK) signal having in-phase (I) and quadrature phase (Q) signal samples. The I and Q signal samples, each being a multiple-bit value, are input to a QPSK despreader **230**.

QPSK despreader **230** also receives the pilot PN sequences PN_I and PN_Q from pilot PN sequence generator **232**. Pilot PN sequence generator **232** generates the PN sequences PN_I and PN_Q identical to those used in the base station according to sequence timing and state input (not shown) as provided from controller **78**. QPSK despreader **230** removes the PN spreading on the raw I and Q signal samples to extract uncovered I and Q component samples. In the exemplary implementation the pilot signal uses the all-zero Walsh code. In using the all-zero Walsh code the PN spread pilot signal is the same as the I and Q PN spreading sequences themselves. Therefore by removing the PN spreading on the I and Q signal samples and filtering the result, the pilot is recovered.

The uncovered I and Q component samples are respectively output from QPSK despreader **230** to digital filters **234** and **236**. The uncovered I and Q are also output to data recovery circuitry (not shown), which need not be described for an understanding of the present invention. Filters **234** and **236** are typically configured as simple first order, low pass, digital filters. The filtered I and Q samples output from filters **234** and **236** are samples of the I and Q components of the pilot signal and are referred to as Pilot I and Pilot Q samples. The Pilot I and Pilot Q samples are provided to a pilot signal strength measurement circuit **258**, as well as to user digital data processing circuitry (not shown). The pilot signal strength measurement circuit **258** calculates the average signal strength of the Pilot I and Pilot Q samples. A demodulation path receive signal strength indicator signal **262** produced by circuit **258** is indicative of the calculated pilot strength value for the path being processed by the demodulation element.

FIG. **6** is a flow chart representative of the manner in which the received pilot power (P_{pilot}) and path loss are determined within the processor **78**. As discussed above, the received pilot power (P_{pilot}) is determined as follows:

$$P_{pilot}=E_c/I_0+P_{total}$$

where P_{total} is the total received signal power (dBm) measured by power measurement circuit **96**, and E_c/I_0 is the pilot strength measurement (dB). As is indicated by FIG. **6**, the term E_c/I_0 is determined by combining, in combination block **305**, the individual pilot signal strength measurements **262**N—**262**N produced by the N demodulation elements **104**. The value of P_{pilot} is then computed by summation block **300**, which adds the total received signal power P_{total} (dBm) to the pilot strength measurement E_c/I_0 (dB). The value of P_{pilot} may be displayed to a user of the mobile unit **16** on display **80** in order to provide a channel quality indication **310**, such as a number of signal strength bars on a visual display **80** (see FIG. **2**), or an audio tone indication of signal quality.

Once P_{pilot} has been ascertained, the path loss between the base station **12** and the mobile unit **16** may be derived from P_{pilot} and the base station transmitted pilot power ($P_{transmitted\ pilot}$). In the exemplary implementation the user digital baseband **82** extracts the value of $P_{transmitted\ pilot}$ from the 3-bit reserved field of the IS-95 Sync Channel Message transmitted by the base station **12**. The path loss may then be computed by taking the difference, in path loss computation block **320**, between the transmitted pilot power, $P_{transmitted\ pilot}$, and the received pilot power, P_{pilot}. The resultant correction signal may then be passed to the transmit power control circuitry (not shown) internal to transmitter **76** (FIG. **2**) in order to set the initial transmit power of the mobile station. By using the actual received power of the CDMA pilot signal, and comparing that with a known pilot transmit power level of the cell-site, a more accurate estimate of the average reverse link path loss may be determined. Additionally, the resultant correction signal generated by path loss computation block **320** may also provide a channel quality indication **310** on display **80** (see FIG. **2**), instead of using P_{pilot}.

The previous description of the preferred embodiments is provided to enable any person skilled in the art to make or use the present invention. The various modifications to these embodiments will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other embodiments without the use of the inventive faculty. Thus, the present invention is not intended to be limited to the embodiments shown herein but is to be accorded the widest scope consistent with the principles and novel features disclosed herein.